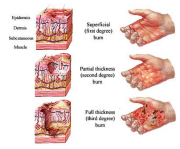
Integumentary System

Source: http://www.burn-recovery.org/injuries.htm



Degrees of Burns

Effects of the Sun and Burns

Severity of Burns

* 1st degree burns- cells in epidermis are injured and may die
  - redness and swelling with mild pain
* 2nd degree burns- cells deeper in epidermis die, cells in dermis are injured and may die
  - blisters with pain
* 3rd degree burns- cells in epidermis and dermis die, nerve cells and muscle cells are injured
  - skin function lost, healthy skin needs to be transplanted, no pain due to nerve cell damage

Effects of the Sun and Burns

* Burns, whether caused by the Sun, heat, or chemicals, are classified according to their severity

Source: http://www.hairtx.com/hair-growth/hair-anatomy/

Hair follicle

Hair and Nails

* both hair and nails contain keratin and develop from epithelial cells
* hair cells grow out of narrow cavities in the dermis called hair follicles
* hair follicles usually have sebaceous glands associated with them that lubricate the skin and hair

Hair and Nails

Functions

* temperature regulation
* vitamin production
* protection and senses

Functions

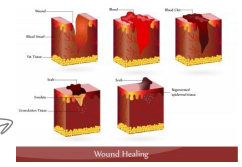
Damage to the skin

* skin has remarkable abilities to repair itself
* without a repair mechanism, the body would be subject to invasion by microbes through breaks in the skin

Damage to the skin

Cuts and Scrapes

Healing process of a scab



Source: http://www.ecellulitis.com/symptoms/scabs/

Cuts and Scrapes

* cells deep in the epidermis divide and replace the lost or injured cells
* when the injury is deep, blood vessels might be injured, resulting in bleeding
* infection-fighting white blood cells will help get rid of any bacteria that might have entered the wound

Dermis

Dermis

* The dermis is located directly beneath the epidermis
* the dermis consists of connective tissue, nerve cells, muscle fibers, sweat glands, oil glands, and hair follicles
* below the dermis layer is the subcutaneous layer which is a layer of connective tissue that stores fat and helps the body retain heat

Epidermis

Epidermis

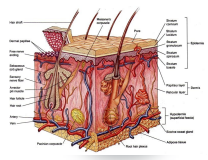
* outer superficial layer of skin is the epidermis
* outer layers of epidermal cells contain keratin, which waterproofs and protects the cells and tissues that lie underneath
* inner layer of epidermis contains cells that continually are divided by mitosis to replace cells that are lost or die
* some cells in the inner layer of the epidermis provide protection from harmful ultraviolet radiation by making a pigment called melanin

Structure of skin

Structure of skin

* Skin is a multilayered organ that covers and protects the body

Layers of the skin



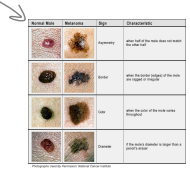
Source: http://larasbeautybible.blogspot.com/2010/06/skinwhat-is-it-exactly.html

Skin cancer

Skin cancer

* Ultraviolet radiation can damage the DNA in skin cells, causing those cells to grow and divide uncontrollably
* there are two main categories ...

Skin cancer



Source: http://www.chw.org/display/PPF/DocID/22996/router.asp